Patent claims

1. Enzyme,

characterized in that it has uracil-DNA glycosylase activity and is completely inactivated when heated above about 60°C.

. 5

- 2. Enzyme according to claim 1, characterized in that it has an amino acid sequence as shown in SEQ.ID.NO: 1 or SEQ.ID.NO: 2 or a functional part thereof.
- 10 3. Enzyme according to claim 1 or 2, characterized in that it is derived from an organism adapted to a cold environment.
 - 4. Enzyme according to any of the preceding claims,
- 15 characterized in that it is derived from an eukaryotic organism, preferably from Atlantic cod (Gadus morhua).
 - 5. Enzyme according to any of the preceding claims, characterized in that it comprises a traceable label.

20

- 6. DNA sequence, characterized in that it encodes the enzyme according to any of the claims 1 5.
- 25 7. DNA sequence, characterized in that it comprises the nucleotide sequence given in SEQ. ID. NO: 1 and/or SEQ. ID. NO: 2.
 - 8. DNA sequence according to claim 6 or 7,
- 30 characterized in that it includes a promoter.

- 9. DNA sequence according to claim 6, 7 or 8, characterized in that it is contained in an expression vector, such as a plasmid, a cosmid or a virus.
- 5 10. DNA sequence according to any of the claims 6 9, characterized in that it comprises a traceable label.
- 11. Micro organism,characterized in that it includes a DNA sequence according to any ofthe claims 6 10.
 - 12. Micro organism according to claim 11, characterized in that it is a mammalian cell or a bacterium.
- 15 13. Micro organism according to claim 11 or 12, characterized in that it is an *E, coli* strain.
- 14. Method of preparation of an enzyme according to the claims 1-5,
 c h a r a c t e r i z e d i n t h a t it is prepared by extraction from naturally
 20 occurring sources or by recombinantDNA technology, isolation from a resulting mixture and purification to a desired purity.
- 15. Use of an enzyme according to any of the claims 1 5, in monitoring an/or controlling a reaction system multiplying DNA sequences, such as a PCR
 25 or LCR.
 - 16. Use of an enzyme according to any of the claims 1 5 in carry-over prevention procedures.